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Deseret Chemical Depot

Environmental Remediation

The U.S. Army is committed to environmental remediation



This photograph shows a well located within a Solid Waste Management Unit (SWMU). Deseret Chemical Depot has more than 100 wells that are regularly tested to determine if the groundwater is safe from chemical agent breakdown products and other contaminants of concern.

For more information,
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Deseret Chemical Depot (DCD) is aggressively cleaning its contaminated landscape, which includes a number of Solid Waste Management Units (SWMUs). These areas were used more than 30 years ago to dispose of conventional and chemical weapons, as well as various industrial materials such as paint, commercial cleaners and scrap metal. Back then, burying or open-pit burning and open-pit detonation were acceptable methods of disposal.



SWMU 25 contains a number of ash piles that are the result of open-pit detonations of conventional weapons that took place more than 30 years ago.

But as environmental awareness heightened, the U.S. Army discontinued the use of these disposal areas.

Of the 29 identified SWMUs, DCD has sufficiently remediated 14, meaning that no further action is needed or that acceptable institutional controls are now in place. Cleanup is underway or is being planned for DCD's 15 remaining SWMUs, which vary in size and level of contamination. The largest and most heavily contaminated areas are SWMUs 1 and 25, which were used for demil operations including open burning, open detonation and burial of both chemical and conventional munitions.

SWMU 1 is one of the most complex cleanups faced by the U.S. Department of Defense. Located along the depot's southern boundary, its 373 acres include 130 disposal features such as buried trenches, mounds and open pits that were used to detonate and bury explosives and chemical weapons between 1945 and 1978. Because not all of the munitions were burned before they were buried, there is the potential that agent-filled munitions exist buried below the surface.

OVER ►



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(continued)

Additionally, SWMU 1 was used to dispose of at least one GA nerve agent bomb and various fire bombs such as M50 cluster bombs containing thermite. Various munition casings lie on the surface of SWMU 1, including more than 59,000 empty 4.2 inch mortar shells.

Results of extensive soil testing show that SWMU 1 is contaminated with nerve and blister chemical agents, Munitions of Explosive Concern, heavy metals, industrial solvents and fuel hydrocarbons.

SWMU 25 encompasses 1,105 acres along the depot's southern boundary and was used for a variety of demilitarization and disposal activities from 1945 to 1978. Areas of concern include 50 explosion craters, which measure approximately 3.5 acres each and were created by open detonations. The eastern part of SWMU 25 contains numerous disposal trenches containing incendiary bombs such as M50 thermite bombs—some with live charges—and numerous ash piles from open-burning activities. Carbon tetrachloride has been detected in the groundwater and small amounts of fuel hydrocarbons have been detected in the soil. Extensive soil sampling on SWMU 25 is planned for spring/summer 2011.

Cleanup of SWMUs 1 and 25 will consist of stabilizing the ground surface by removing the munitions and other surface debris using the best technology available. Groundwater contaminants will also be characterized and appropriate measures will be taken to prevent contaminants from spreading farther.

It is estimated that remediation of the depot's Solid Waste Management Units could cost more than \$100 million and take until 2017 to complete.

At the end of stockpile elimination, DCD's property will be split into two parts. The most heavily contaminated



Remediation plans include cleaning the surface of SWMUs 1 and 25, which are littered with warfare debris such as bundles of thermite (shown above) and tens of thousands of munition shells (below).

areas, which include SWMUs 1 and 25, will be managed by the Base Realignment and Closure Division (BRAC-D).

Deseret Chemical Depot is working closely with BRAC-D, the U.S. Army Corps of Engineers, the U.S. Army Environmental Command and the Utah Division of Solid and Hazardous Waste to adequately remediate all of its contaminated areas.

"The federal government is committed to dealing with this issue," says Troy Johnson, DCD Environmental Program Manager. "Because of the complexity of the cleanup, there are a lot of studies, a lot of documentation and a lot of safety submissions that have to be done and done thoroughly."

Surface cleanup on SWMUs 1 and 25 is anticipated to begin in 2012. In the meantime, work plans, explosive and chemical safety plans and health and ecological risk assessments are currently being developed. Documents and current information about Deseret Chemical Depot's environmental remediation efforts are available at the Tooele City Library, the Tooele Chemical Stockpile Outreach Office and the Utah Division of Solid and Hazardous Waste. There are also regularly scheduled DCD Restoration Advisory Board (RAB) meetings where cleanup efforts are discussed at length. The public is encouraged to attend these meetings.



To find out the next scheduled RAB meeting, or for more information about Deseret's remediation efforts, please contact the Tooele Chemical Stockpile Outreach Office.